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AUTHOR Branch, Roger G.; And Others

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ABSTRACT

This study attempted to determine the effects of early patient contact through clinic experience upon the perceptions and attitudes of first year dental students. Questionnaires were administered at the beginning and end of students' first year in an innovative and new dental school where they were introduced to clinic experience within the first few months. There was further opportunity for patient exposure at a clinic in an economically depressed area. The analysis focused upon: the students' perceptions of (1) their patients; (2) the dental profession; and (3) themselves. At issue was: whether perceptions and attitudes had changed; to what degree and in what direction the changes had occurred; and what influence clinical experience had exerted in these changes. The findings were compared with similar studies done at schools where first year students had had not clinical experience. The results indicated that 19 of the 23 subjects had adopted more positive attitudes toward patients, in marked contrast to the results of the other studies. In terms of the profession there was a growing cognizance of reality factors, both positive and negative; and in terms of self-perceptions, the subjects moved rapidly toward a position of viewing self as dentist and feeling more confident and competent in playing professional roles in the clinic. (AF)

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THE EFFECTS OF PATIENT CONTACT UPON FIRST-YEAR DENTAL STUDENTS: A STUDY OF CHANGING PERCEPTIONS

Roger G. Branch, Larry A. Platt, and Gilbert E. Johnson

The primary importance of this study derives from its focus upon a relatively new and rare approach to certain aspects of professional training. It concerns the effects of early patient contact through clinic experience upon the perceptions and attitudes of dental students. Traditionally, such practical experience has been placed late in the educational sequence for most professions. Recently, however, the appropriateness of this late sequencing of clinical training has been questioned. Subjects for this study became involved with clinic patients early in their first year at dental school. An examination of the effects of this innovation, as indicated at the end of the students' first year, follows.

RATIONALE

Becker (1961), Lortie (1959), Quarantelli and Helfrich (1967), and others have presented extensive evidence indicating that students in professional schools retain their student-trainee roles to the end of their educational careers. They emerge unprepared to play the roles appropriate to their newly gained occupations or cope adequately with many occupational realities.

Much of the responsibility for failure in professional socialization has been laid upon professional schools, and with some justification. Becker and Geer (1958) note that the typical medical student begins his professional training with an idealistic conception of his chosen occupation, focusing upon the ideal of service to mankind. This idealism

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begins to be undermined almost immediately by the concrete situational realities of medical school where the most powerful challenge is to make the grade as a student. Instead of becoming a student-physician, he remains a student, much as he was as an undergraduate, never seeing a patient and constantly seeking to learn what he feels professors will require him to know on examinations rather than what he will need to know as a good physician. Practical applications of some courses are unclear, perhaps deemed irrelevant by the student. Instead of moving steadily into his professional subculture, he is more firmly enmeshed within a student subculture. Quarantelli and Helfrich indicate that the same pattern holds for dental education, as do others who have studied a variety of other professions.

Leaders in professional education are not unaware of the criticism noted above or of pertinent research on the problem. Some are actively seeking solutions. Among the innovations being introduced in professional education is to structure applied, clinic-type experience into the student's training at an early stage, even in the first year. The reasoning is that if dealing professionally with clients or patients is crucial, adequate occupational socialization is impossible without such experience, and the sooner it is introduced the more thoroughly will the student integrate what he learns into a professional frame of reference. Effects of this innovation remain largely unknown, a problem to which this study is addressed.

The research on which this paper is based is being conducted at a new school of dentistry, beginning with its first class which enrolled in the fall of 1969. A distinctive characteristic of this school is the innovativeness of its administration, faculty, and curriculum, one aspect of

which is the initiation of clinic experience during the early months of the first year, to be continued throughout the four-year training period. Further opportunity for patient exposure is provided by a clinic which is operated weekly in an economically depressed area with funds from the Office of Economic Opportunity and staff from the dental school faculty. Student participation is entirely voluntary, and limited only by the time and interest of the students. Thus, the school provides an opportunity to study the effects of early and extended clinic experience.

METHODOLOGY

Projected as a six-year, multifaceted longitudinal study, the research design includes essential features of several studies of health related education which were judged applicable to the present project. These included Quarantelli's investigation at the Ohio State University School of Dentistry and those by More and Kohn (1960), Sherlock and Morris (1967), and Rosinski (1963). This approach served to yield findings amenable to comparison with the few student populations already studied.

This study has been rather intensive in character with data collected before and throughout the 1969-70 academic year, using a variety of techniques. These include batteries of questionnaires, structured interviews, ongoing and situationally defined unstructured interviews, extensive observation by informed researchers, and field diaries kept by the researchers. Data utilized for this report were drawn from questionnaires administered at the beginning and end of students' first year in dental school, interviews, and observation. At this point, only the information on the first class during its freshman year has been analyzed, and this paper constitutes something of a preliminary report. Since a complete set of data is

available on only 23 subjects, appropriate techniques for statistical analysis are limited. Nor do the data lend themselves well to the testing of strictly formulated hypotheses, because at this early stage the study retains an exploratory character. This report is more concerned with indicating broadly based trends indicated by the data.

In the analysis of data, changes in attitudinal perspectives have been measured by differences in responses to questionnaire items that were administered to the subjects both at the beginning and at the end of the school year and by responses to specific questions about the influence of clinic experience that were included in the end of the year questionnaire. Where the before-and-after comparisons of questionnaire responses involve Likert type items, the number of responses in the extreme categories, such as "very important" or "strongly agree," generally has been used as the primary indicator of change. While all subjects were exposed to patients in the regularly scheduled school clinics, some had additional exposure through the OEO clinics, and data for measurement of this variable come from an item on the final questionnaire indicating the number of times the student participated in these clinics.

FINDINGS

Two broad types of change can be discerned in the attitudes and perceptions of the subjects of this study by the end of their freshman year in dental school. First, their orientations toward patients and dentistry generally are more positive. If anything, they are somewhat more idealistic in terms of sensitivity to patients and of evaluation of the services dentistry can offer. Second, they are more realistic in their conceptions of patients

and dentistry. They are aware of at least some of the negative aspects of actual dental practice and of the failure of present structures for delivery of dental health services to meet existing needs adequately. This combination of idealism and realism apparently is not really incongruous. Becker and Geer (1958, 55) note a similar development among medical school seniors in their study.

These two types of changes in students' perceptions will be discussed in greater detail as they apply to three points of focus--patients, the profession of dentistry, and themselves. Clinic experience could be expected to have an impact on the way each of these is viewed.

Perceptions of Patients

Evidence relating to changing perceptions of patients drawn from the comparative questionnaire items is limited and inconclusive. Subjects were asked to rate the importance of 14 statements that might be seen as advantages of dentistry (Table I). In the post-test, the statement "being able to deal directly with people rather than just things" rose from a three-way tie for the last rank in importance to fourth place. The number seeing this as a "very important" advantage changed from 2 to 11. On the other hand "having the chance to help people" declined from third to eighth rank. The number of respondents rating it as "very important" changed from 14 to 9, although all but one of the 23 continued to attribute some degree of importance to this factor.

More direct evidence is provided by open-ended questions asked at the end of the year regarding how attitudes toward patients had been changed as a result of contact in clinic settings. Two respondents indicated no

change and two others reflected negative changes. Thus, 19 students reported changes that were in some sense positive. These fall into two categories: Changes in perceptions of the patients themselves and changes in perceptions of self in dealing with patients. Eleven statements of positive change were patient oriented; six dealt with self in interaction with patients; and two subjects made statements fitting both categories.

Three themes recur among the statements reflecting a more positive attitude toward patients. They may be summarized as follows, with the number of statements fitting each theme indicated in parentheses: Increasing regard for patients as persons rather than objects for learning and practice (6); growing respect for patients and sensitivity to their problems (6); and increasing comprehension of the need patients have for the service that the clinician can offer (4). These findings may be compared with those of Quarantelli and Helfrich (1967, 156) in which patients were "viewed as means to an end. Only 35 per cent of our seniors look at the people they work on in the clinic 'as individual persons who need (their) help.'"

Changing views of self in relation to patients primarily reflect increasing confidence in technical ability and in handling interpersonal doctor-patient relationships. There are 8 statements about feeling more at ease, less afraid, or more confident. One respondent said he had begun to enjoy working with patients and practicing dental techniques learned in class.

Most of the patient-oriented statements indicate a continued or increased acceptance of the ideal norms of the profession which stress concern for the patient as a person with needs that the dentist can and should meet. However,

those that show greater knowledge of the extent of such needs in the populace also indicate growing awareness of reality. Other evidence of realistic adjustment is found in two statements to the effect that, in spite of a general sensitivity to patients, the clinician finds himself more case-hardened to such unpleasant activities as those requiring the infliction of pain in carrying out a procedure. Further reality factors are indicated by statements reflecting insight into the limitation of patients' knowledge about dentistry and dental health, the patience of patients, the problems patients face, and the importance of skill in meeting these problems. Most of the statements about self in relation to patients fall into the category of increasing realism, growing out of positive and reinforcing experiences with patients.

Perhaps it is worthy of note that three of the four students who reported no change or negative change in attitudes toward patients had never taken part in the voluntary OEO clinics and the other only once. By contrast, of the 13 who made positive, patient-oriented statements only two had never participated in these clinics, and the highest rate of participation is found in this category of respondents. Three of those who emphasized changes in self in dealing with patients had not attended the voluntary clinics.

Perceptions of Dentistry

Several items from the questionnaires administered at the beginning and end of the academic year offer insights into changes in the students' perceptions of the dental profession. Among the statements evaluated as advantages of dentistry (Table I) several shifts in rank appeared. "Having freedom from supervision and great scope for independent decision" retained first rank with the number seeing it as "very important" increasing

from 15 to 16. However, "having attractive working conditions, such as clean office surroundings and a flexible work schedule" rose in rank from seventh to second place, receiving "very important" evaluations from 13, an increase of 3. "Being able to attain a considerably better than average income" moved from fifth to third place, although its "very important" evaluations rose by only one, from 11 to 12. Among the more notable changes is the evaluation of "having prestige in the local community," which rose from a tie for last position to a tie for fifth rank, the "very important" votes increasing from 2 to 10.

The above statements indicate a growing understanding and acceptance by the students of certain realistic and pragmatic aspects of the professional subculture. Occupational ideologies stress moral and ethical values, at least in part for public consumption, but the relatively non-public aspects of occupational subcultures tend to emphasize and legitimate the rewards received by occupational practitioners. These data, therefore, suggest that realistic occupational socialization is in progress among these subjects. Practical experience could be expected to influence such perceptions as those pertaining to pleasant working conditions and occupational prestige.

A questionnaire section similar to the one just discussed elicited responses to statements on the disadvantages of dentistry (Table II). Comparison of responses from the two administrations of the instrument indicate a definite trend toward more realistic views of the profession. Entering freshmen stated few strong agreements with any of the proposed negative statements about dentistry. At the end of the year they apparently perceived certain aspects as more clearly disadvantageous. Statements that ranked

highest, along with the changes in the number of "strongly agree" evaluations, are as follows: "Heavy cost of initial investment in setting up practice," 5 to 9; "potential hazards to health involved," 0 to 5 "lack of appreciation by patients of the non-mechanical skills of the dentist," 2 to 5; "physically demanding hard work involved in standing for a long time, etc.," 1 to 5; and "thinking by most people that the dentist is not much more than a mechanic," 0 to 4. An average of one in every six subjects in the study shifted to the extreme position on each of these five "disadvantages of dentistry." The nine other statements showed little change. All but the first of the five statements receiving strongest agreement are of such nature as to reflect the influence of practical experience in treating patients. Health hazards and hard work obviously become more salient when they have been encountered, and perceptions of patients' ideas would logically be most attributable to encounters with patients.

A third questionnaire section (Table III) asked students to evaluate a set of 16 characteristics of a good dentist. Again, changes in responses indicate a shift toward more realistic perceptions of dentistry. "Recognition of own limitations," rose from third to first rank, and its evaluations as "very important" changed from 17 to 22. "Ability to handle people" changed from fourth to second place, gaining from 16 to 21 in number of "very important" responses. "High ethical standards" received two additional "very important" evaluations, from 18 to 20, but declined slightly in relative rank from second to third. "Skillful management of time" gained 6 "very important" ratings, from 13 to 19, and climbed from sixth rank to fourth. The pattern of combined realism and idealism again emerges. Further, the

increased saliency of recognition of limitations, ability to handle people, and skillful management of time would appear to be attributable to practical experience with patients, at least to some degree.

The final questionnaire contained a direct, open-ended question on how experiences with clinic patients had influenced students' ideas about dentistry. Six subjects reported little or no change; fifteen recorded positive changes; two cited negative changes. The categories of positive change statements and number in each category are as follows: Heightened appreciation for the services dentistry can provide and for the profession in general (10); enhanced understanding of the challenges and difficulties involved in dentistry (7); and greater enthusiasm for the practice of dentistry (3). Negative changes were disappointment with the extent of dental care being provided in the face of great need and the feeling that dentistry possibly had been a poor occupational choice. Half of the students reporting either no change or negative change had never participated in the voluntary OEO clinics.

The statements of positive change reflect retention, possibly extension, of the idealistic norm of service to humanity, along with greater understanding of what that service entails and the extent of the need for that service. Enhanced understanding of challenges and difficulties is a realistic change, a development further reflected by statements concerning insight into the responsibility of the dentist, time and energy required in patient management, applicability of science courses to practice, limited concern of patients for their own problems, dependence of patients upon the dentist, and tendency of patients to underrate dentists.

Perceptions of Self

Evidence on changes in self-perceptions is somewhat limited. On the before-and-after questionnaires, subjects responded to a self-rating instrument, an equal-appearing interval scale with points from 1 to 10 representing an arbitrary distance between dental student and dentist (Table IV). They were asked to place themselves and project where certain significant others would place them on the scale. The mean point of self-placement for all responses on the pre-test was 1.17. The post-test mean was 3.05, a change of 2.88. This rate of change would take the class near the upper limit of the scale by the end of the junior year.

Subjects in the Quarantelli and Helfrich investigation began near the same point with a mean of 1.31 but gave themselves a mean rating of only 8.46 at the end of their senior year (1967,142). Unfortunately no information is available from that study on where those subjects might have been placed at the end of their first year, but the students in the present study moved one third of the distance to the mean score of Quarantelli's seniors by the end of their first year. These data simply indicate perceptions of self as dentist had changed considerably during the year, perhaps at a faster rate than those studied by Quarantelli who did not have clinic experience during their freshman year.

It has already been noted that several respondents changed in their self-perceptions with regard to dealing with clinic patients. Eight statements of greater confidence, less fear, etc., were reported. In short, approximately one third of the students felt more at ease and competent in their roles in the doctor-patient relationship.

If, as Quarantelli and Cooper (1966) conclude, the perceived responses of others are of singular importance in the formation of self-conception, clinic patients probably exerted strong influence toward raising the level of self-perception. On the projective self-rating scale (Table IV), even the entering freshmen expected clinic patients to rate them higher than anyone else, with a mean of 4.61. Evidently these expectations were supported by experience, because at the end of the year these students had elevated their estimate of patients' perceptions to a mean level of 6.70. Patients still ranked highest among the significant others whose evaluations subjects were asked to project. Since the students regularly interacted with patients who were perceived to respond to them much as if they were finished, professional dentists, there would be regular pressure to raise the level of their self-perceptions to achieve closer congruity with perceived patient evaluations.

SUMMARY AND CONCLUSIONS

Data for this study were analyzed with three questions at issue. First, did subjects change their perceptions and attitudes during their first year in dental school? Second, to what degree and in what directions did they change? Third, what influence, if any, did practical clinic experience exert in these changes? The analysis focused upon subjects' perceptions of patients, the dental profession, and themselves.

It is safe to assert that the students changed, although this conclusion often is supported more by broadly based trends in the findings than by a single dramatic datum. Post-test responses to questions about perceived changes resulting from clinic experiences provide more direct evidence even if degree of change is sometimes difficult to evaluate.

Comparison of pre-test and post-test responses to questionnaire items relating to perceptions of patients provided inconclusive evidence. However, the direct, end-of-year questions on the impact of clinic experience yielded information that 19 of the 23 subjects had adopted more positive attitudes toward patients. Of this number, 11 indicated more positive orientations toward patients themselves, 6 felt more positive about self in interaction with patients, and 2 made statements fitting both categories. The retention and even extension of professional idealism reflected in many of these responses is in marked contrast with the findings of Becker and Geer and Quarantelli and Helfrich concerning their subjects at a comparable stage in their porfessional education in which a marked decline in idealism

is noted. Changed perceptions of patients in the present study also move in the direction of greater realism, and clinic experience apparently provides the cognitive foundations for the changes. The formative influence of patient contact is further supported by the fact that the idealistic responses came from those with greater degrees of patient exposure through the voluntary OEO clinics, while negative reactions came from those with little or no such experience. An alternate explanation may be advanced that self-selection played a part in these association, i.e., idealistic students volunteered for the clinics. However, this argument would seem to hold only for a minority of subjects rather than the broad trend seen in the data and does not hold up at all as an explanation for increase in realistic perceptions.

Findings related to perceptions of dentistry followed the trends noted above. A much greater volume of evidence for change was drawn from the pre-test and post-test questionnaire items. These yielded an additional insight that the students were acquiring certain relatively non-public aspects of their professional subculture, such heightened evaluation such as some of the rewards associated with dental practice. Data on perceptions of the profession probably reflect more strongly than those discussed on patient perceptions the subjects' growing cognizance of reality factors--both positive and negative. Encounter with reality had little negative effect upon students' enthusiasm for dentistry; indeed, more reported greater enthusiasm and commitment than negative change in attitudes at the end of the year.

Again, the specific statements of attitudinal change resulting from clinic experience are such that such experience must be judged as influential and basically positive in the inculcation of both idealistic and realistic components of the professional subculture. Since the realism-idealism combination emerges only late in the educational careers of subjects of earlier research, a very tentative conclusion will be suggested--that patient contact encourages early maturity in the process of professional socialization.

Further support for the above conclusion is provided by data on self-perceptions, which show the subjects moving rather rapidly toward the position of viewing self as dentist and feeling more confident and competent in playing professional roles in the clinic.

In summary, subjects in this study displayed changed perceptions of themselves, patients, and the dental profession. Their later perceptions were both more realistic and somewhat more idealistic, reflecting progress in professional socialization. The impact of patient contact upon these changes is explicit and clear at some points and implicit or tentative at others, but it cannot be easily denied. The importance to the students of the opportunity to work with patients is clearly illustrated by an incident in which one of the subjects told a researcher that the only thing gave him sufficient incentive to stay in dental school was his work in the clinic program.

If these conclusions are valid, they have extensive ramifications. The first issue raised is whether or not early sequencing of practical

experience might be appropriate in other fields of professional education, such as medicine, law, teaching at all levels, the ministry, and others. Wherever the firm inculcation of a professional subculture is deemed important, this issue is relevant. A very different issue is that of possible negative effects of early practical experience. One of the few pertinent investigations, which focused upon music students, noted that early occupational role experience within the training process did foster greater student satisfaction with the occupation, heightened student evaluation of the occupation, and increased student self-identity with the occupation, but it also had deleterious effects on the neophytes' evaluation of student roles, resulting in declines in academic performance (Kadushin, 1969). Obviously, therefore, further research is indicated. Especially needed are studies of the sequencing of practical experience in a variety of fields of professional education and longitudinal studies making possible the assessment of long term effects of this major innovation in the educational process. A primary goal of the present research effort is to provide one of these longitudinal studies.

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TABLE I

Rank Order of the Advantages of Dentistry as Perceived by Freshmen Dental Students At the Beginning and the End of the First School Year*

ADVANTAGES OF DENTISTRY	RESPONSES							
	Very Important		Moderately Important		Somewhat Important		Hardly at All Important	
	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N
1. Having freedom from supervision and great scope for independent decisions.	15	16	8	5	--	2	--	--
2. Having a chance to utilize one's manual dexterity.	15	7	7	5	1	6	--	5
3. Having the chance to help people.	14	9	8	9	1	4	--	1
4. Dealing at times with very complex and challenging dental problems.	13	8	5	11	4	3	1	1
5. Being in work where you can often develop warm personal relationships with patients and have them look up to you as a counselor.	12	8	9	10	2	1	--	4
6. Being able to attain a considerably better than average income.	11	12	10	10	2	1	--	--
7. Having attractive working conditions such as pleasant, clean office surroundings and a flexible work schedule.	10	13	10	9	3	1	--	--

TABLE I
(Continued)

	V.I.		M.I		S.I.		H.I.	
	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N
8. Having the security of a lifetime job from which one cannot be fired.	10	10	6	10	3	1	4	2
9. Engaging in work which involves scientific knowledge and research	8	10	8	11	7	--	—	2
10. Doing work which in some of its technical aspects allows a degree of creative or artistic expression.	5	5	13	12	2	3	3	3
11. Engaging in activities which allow a high degree of work organization and routine.	3	2	5	8	11	7	4	6
12. Being able to deal directly with people rather than just things.	2	11	1	3	16	3	4	1
13. Doing work in which professional mistakes do not usually result in drastic consequences.	2	2	5	7	8	6	8	8
14. Having prestige in the local community.	2	10	1	12	1	1	19	--

N = 23

*Data derived from the following question: "Following are some of what are usually thought of as favorable consequences of becoming a dentist. How personally important to you is each one of them?"

TABLE II

Rank Order of the Disadvantages of Dentistry as Perceived by Freshmen Dental Students at the Beginning and the End of the First School Year*

DISADVANTAGES OF DENTISTRY	RESPONSES							
	Strongly Agree		Moderately Agree		Slightly Agree		Not at all A Disadvantage or Unfavorable	
	Pre-N	Post-N	Pre-N	Post-N	Pre-N	Post-N	Pre-N	Post-N
1. The heavy cost of initial investment in setting up the practice.	5	9	8	5	5	7	5	2
2. The lack of appreciation by patients of the non-mechanical skills of the dentist .	2	5	3	5	8	12	10	1
3. The physically demanding hard work involved in standing for a long time, etc.	1	5	3	3	11	6	8	9
4. The absence of variety and the repetitious nature of the work of the general practitioner.	1	--	2	6	6	6	14	11
5. The potential hazards to health involved .	--	5	9	3	8	9	6	6
6. The working alone without colleagues .	--	3	5	1	7	9	11	10
7. The thinking by people that the dentist is not much more than a mechanic .	--	4	5	7	7	10	11	2

(Continued)

TABLE II
(continued)

	St.A.		M.A.		Sl.A.		Not. Dis.	
	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post N	Pre- N	Post N
8. The lack of opportunity to make a contribution to basic knowledge.	--	2	3	2	6	3	14	16
9. The impossibility of attaining a tremendous income as in some other fields.	--	1	1	3	5	6	17	13
10. The fact that the total responsibility for the work done is solely that of the dentist himself.	--	--	2	3	2	6	19	14
11. The having to inject needles into people.	--	--	--	--	5	3	18	20
12. The working in a "dirty part" of the body.	--	--	--	2	4	8	19	13
13. The necessity of working around blood.	--	--	--	2	3	7	20	14
14. The working with people rather than just physical objects.	--	1	1	--	2	2	20	20

N = 23

* Data derived from the following question: "Below are some things that have been suggested as possible disadvantages of unfavorable aspects of being a dentist. Indicate the extent you agree or disagree that they are disadvantages."

TABLE III

Rank Order of the Characteristics of a Good Dentist as Perceived by Freshmen Dental Students at the Beginning and the End of the First School Year*

GOOD DENTIST CHARACTERISTICS	RESPONSES							
	Very Important		Moderately Important		Slightly Important		Not Important	
	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N
1. Strong dedication to dentistry.	19	18	3	4	1	--	--	1
2. High ethical standards.	18	20	5	2	--	--	--	1
3. Recognition of own limitations.	17	22	5	1	1	--	--	--
4. Ability to handle people.	16	21	7	2	--	--	--	--
5. Getting real enjoyment out of dentistry.	16	17	6	5	1	1	--	1
6. Good manual dexterity	14	14	9	8	--	1	--	--
7. Emotional stability	13	17	10	5	--	--	--	1
8. Good technical skills	13	16	10	7	--	--	--	--
9. Skillful management of time	13	19	10	3	--	--	--	1
10. Scientific curiosity	9	10	12	9	2	2	--	2
11. High intellectual ability.	9	6	13	13	1	2	--	2

(continued)

TABLE III

Rank Order of the Characteristics of a Good Dentist as Perceived by Freshmen Dental Students at the Beginning and the End of the First School Year*

	RESPONSES							
	Very Important		Moderately Important		Slightly Important		Not Important	
	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N	Pre- N	Post- N
12. Good business sense.	8	11	13	10	2	2	--	--
13. Dignified appearance and mannerisms.	7	10	11	8	3	5	2	--
14. Outgoing and extrovert personality.	5	3	13	8	5	6	--	3
15. Good research ability	2	2	9	4	12	11	--	6
16. Interest in writing professional articles	1	1	6	6	11	7	5	9

N = 23

* Data derived from the following question: "In your opinion, which of the following characteristics are important to have to be a good dentist?"

TABLE IV

Mean Rank Order of Projected Self Rating from Dental Student to Dentist for Self and Others by Freshmen Dental Students at the Beginning and the End of the First School Year*

RATING CATEGORIES	RESPONSES	Pre-Test $\bar{X}$	Post-test $\bar{X}$
1. Where would you place yourself at this time		1.173	3.047
2. Where do you think that the MCG faculty now see you?		1.173	2.739
3. Where do you think your non-dental friends and acquaintances now see you?		1.565	4.318
4. Where do you think your parents now see you?		1.821	3.565
5. Where do you think patients in the MCG dental school clinic will see you when you start working in the clinic?		4.608	6.695
	N = 23		

* Data derived from the following question: "Below is a line representing an arbitrary distance between a dental student and a dentist."

	1	2	3	4	5	6	7	8	9	10	
Dental Student	/	/	/	/	/	/	/	/	/	/	Dentist

** Source: All of the data presented in Tables I - IV were derived from questionnaires administered on September 2, 1969 and May 28, 1970.